DOCUMENT RESUME

ED 371 795 JC 940 389

AUTHOR Groomes, M. Rudy
TITLE Comprehensive Learning Centers: Using Technology To Supplement the Classroom.
PUB DATE Apr 94
NOTE 12p.; Paper presented at the Annual Convention of the American Association of Community Colleges (74th, Washington, DC, April 6-9, 1994).
PUB TYPE Reports - Descriptive (141) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Audiovisual Communications; Community Colleges; *Computer Uses in Education; Educational Development; *Educational Media; *Educational Technology; *Multimedia Instruction; Two Year Colleges

ABSTRACT

Orangeburg-Calhoun Technical College (OCTC) is a public two-year technical college located in rural South Carolina. Some prominent examples of the use of technology at OCTC include the following: (1) the Health Sciences Satellite Media Center houses software and audiovisual equipment which provides instructional support to seven health science curricula; (2) "Introduction to Health Professions" is a self-paced two-credit-hour course housed in the Media Center; (3) computer-based simulations that reconstruct actual clinical situations are available for Pediatric Nursing, X-Ray Circuit, and other programs; (4) test banks provide an opportunity for students to review licensure exams, and also provide instructors to identify areas where students need help; (5) instructional computer programs present textual information or graphics, followed by questions relating to the material presented; (6) Media Center computers provide access to the library's online catalog and CD-ROM periodical indexes through a local area network; (7) OCTC serves as a remote site for the distance education programs of the University of South Carolina and Clemson University; and (8) the state-of-the-art Interactive Multi-Media Classrooms for the Humanities and Computer Science are each equipped with 486 IBM-compatible computers connected to laser disc players with projector panels. Software programs offer instruction in history, economics, psychology, sociology, biology and anatomy. A final example of the OCTC's use of technology is the Student Transitional Education Program (STEP) which monitors 150 first-generation college students in the areas of reading, English and mathematics to provide academic support and improve retention rates. The effective use of technology increases learning; however, small colleges face many challenges in funding, hiring and retaining appropriate staff, and keeping pace with rapidly developing technologies. (KP)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 371 795

Comprehensive Learning Centers: Using Technology to Supplement the Classroom

Delivered at the 74th Annual Convention of the American Association of Community Colleges Washington, D. C., April 6-9, 1994

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

M. Groomes

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

M. Rudy Groomes
President
Orangeburg-Calhoun Technical College
Orangeburg, SC 29115
#(803) 536-0311

JC 940 389

BEST COPY AVAILABLE

Orangeburg-Calhoun Technical College: An Introduction

Orangeburg-Calhoun Technical College is a public, two-year technical college located in rural Orangeburg and Calhoun Counties in the midlands area of South Carolina. The College is accredited by the Southern Association of Colleges and Schools and a member of the American Association of Community Colleges and the American Technical Education Association. The College offers associate degrees through the Business, Health Sciences, Industrial, and Technology Divisions, as well as Associate in Arts and Science degrees which can be transferred to four-year institutions in the state.

The College's 100-acre campus, located just north of the city of Orangeburg, serves residents of Lexington, Orangeburg, Bamberg, Calhoun, Clarendon, and Colleton Counties in South Carolina with 75% of the student body living in Orangeburg and Calhoun Counties, the primary service area. Orangeburg and Calhoun counties have a total combined population of 97,556 in an area of just over 1500 square miles.

The College has grown in size from a student body of 199 in 1968 to an annualized headcount of 2366. In the 25 years following its establishment as part of the South Carolina Technical Education System, the College has experienced a series of developmental stages, expanded its campus and changed as the

community changed. Changed also are the ways in which learning is delivered on campus. A serious effort is being made to integrate new technologies to facilitate learning and teaching. Some of the prominent examples of the use of technology at Orangeburg-Calhoun Technical College are discussed below.

The Health Sciences Satellite Media Center

The Health Sciences Satellite Media Center was established in 1988 and was partly funded by Title III grants. The Satellite Media Center is an extension of the Media Department of the Learning Resources Center, and is located in the Health Sciences Building. Because of its convenient location, the Satellite Media Center houses all the software pertinent to the seven health science curricula that reside in this building, as well as the audio-visual media hardware necessary to support instruction . Apart from being a depository for equipment and software, the Center also functionally resembles a learning laboratory. There are 6 Apple and 6 IBM compatible computers located here. This center is open to students from 8:00 am to 8:30 pm. The Center is staffed by one full-time employee and one part-time employee; back-up is provided by the Library staff.

Students from all the Nursing and Health Sciences curricula work in this Center, reviewing assigned videos or film-strips, or working on computer-assisted

instructional material, and even do library research.

Self-paced classes: AHS 101: Introduction to Health Professions is a self-paced 2 credit hour course. Instructional material for this course is housed in the Satellite Media Center. Currently there are 34 students enrolled in this course. They work on the course material at their own pace and at times convenient to them. They complete and turn-in worksheets which are reviewed by the instructors.

Interactive Simulations: Computer-based simulations reconstruct actual clinical situations requiring the student to make medical decisions relating to a particular health problem, and provide immediate feedback, thus informing the student whether his/her decision is correct. Both text-based as well as video-based simulations are used. Included among the text-based simulations are the Respiratory Computer Simulation, Pediatric Nursing, and the X-Ray Circuit Program.

Interactive video simulations provide a visual simulation of a patient's condition. They provide video clips of actual clinical situations and require the student to make medical decisions relating to a particular situation or problem. Immediate feedback is provided. A dedicated interactive video disc system is used to run video simulations. This system consists of a 386 IBM computer

equipped with a touch screen and a Pioneer laser disc player. Laser disc simulations regularly used include "Care of the Cancer Patient with Compromised Immunity" and "Care of the Elderly Patient with Chronic Obstructive Pulmonary Disease." Students are shown procures they need to develop in becoming skilled nurses. Student performance on these simulations is tracked and reviewed by the instructors.

Test Banks: Test banks provide an invaluable opportunity for students to review for licensure exams as well as providing a general review of nursing information. Instructors also use the test bank scores for diagnosing student problems. Instructors review scores which reflect areas of weakness, and work with students to improve those areas. RN NCLEX Challenge, Mosby's Computerized Review of Nursing, and Nursestar are some of the most used test banks.

Computer Assisted Instruction (CAI): Instructional computer programs present textual information or graphics, followed by questions relating to the material presented. As students work their way through the questions, a record is generated of their progress which is reviewed by the instructor.

Network Access: Some of the computers in the Media Center can provide access to the library online catalog through a local area network (LAN). Students

can access books housed in the Library by title, author or subject keyword. Online records entered in the Columbia Library System Online catalog are tied to the circulation system and display the availability of titles as they appear on the screen. Thus students know before leaving the Health Sciences building whether a book of interest is on the shelf in the Library or whether it has been checked out. If it is in use, the due date will be displayed on the screen, and students can then reserve the book.

In the same way, students can use the local area network to access banks of indexes on CD-ROM located in the Library. Students in this center make particular use of the Cumulative Index to Nursing and Allied Health on CD-ROM. Again, references to journal articles appear on the screen in response to patron inquiries. Information appears across the bottom of the screen indicating whether the reference being viewed is available in the Library. Students can electronically mark references of interest so that a bibliography can be printed, providing an accurate list of relevant references available on campus. The Library assists students in locating articles not available in-house.

Distance Education: The College serves as a remote site for the distance education programs offered by the University of South Carolina and Clemson University, as well as some state government and non-government agencies. The

College also subscribes to the Health Communications Network (HCN) which originates from the Medical University of South Carolina, Charleston, and is distributed on the SCETV Network. HCN offers programming for Health and Allied Sciences. A program guide is sent to the faculty, and at their request, particular programs are downloaded for later use in the classroom, or as supplemental material to lectures.

Interactive Media Classrooms

Two classrooms on campus are equipped with state of the art multi-media technology. Funding was provided by the Orangeburg-Calhoun Technical College Foundation. Future plans are to make more interactive classrooms available to meet the needs of the many curricula.

Interactive Multi-media Classroom for the Humanities: The equipment housed in this classrooms includes a 486 based IBM compatible computer with a built-in CD ROM drive. Also connected to this computer is a Pioneer laser disc player and a Sharp video/data projection panel. An overhead projector and screen complete the hardware.

Software utilized includes CD ROM discs in History and Anatomy, as well as Compton's Interactive Encyclopedia, and laser discs which accompany texts in

Economics, History, Psychology, Sociology, Biology and Anatomy. Also being used is instructional software such as "Mathematica", and other graphing and calculator software. This classroom is used regularly by instructors in Mathematics, Economics, History, Psychology, Sociology, Biology and Anatomy.

A barcode scanner is used to read the code at the bottom of the page in specially prepared instructor's edition of the textbooks. This calls up on the screen the relevant part of visual and sound information stored on the CD ROM provided by the publisher. If desired, portions of the text can be displayed on the screen too.

Commercially available CD-ROM titles also provide excellent educational experiences which would have been hard to provide in a traditional classroom. For example, the biology instructor can present a lesson on the circulation system and then using the Mayo Clinic Family Health CD can zoom in on the heart, or demonstrate visually the workings of the circulatory system. And all these video clips can provide actual sounds too, like the heart beat.

Similarly, using the History of the World CD, history can be brought to life. The instructor can walk the class through the Palace of Versailles built by Louis XIV. The full length of the Hall of Mirrors can be transversed to the accompaniment of Baroque music in the background. Turning to World War II on

the same CD, FDR's speech on "a day that will live in infamy" can be heard when studying the Dec. 7 attack on Pearl Harbor. This can be followed by a map displaying the extent of Japanese conquests in the Pacific, or a visual report of the Battle of the Red Sea in May 1942. The final stages of the war come to life when students see and hear the Japanese surrender on Sept. 2, 1945.

The math instructor uses Mathematica software TI Graphing Calculator. This enables the instructor to display complex matematical models 3-D graphics. Plotting polynomial functional shows visually how a graph is affected when the value of a component changes. What would take 15-20 minutes of class time to plot and illustrate appears on the screen in moments when using this technology.

Computer Science Multi-media Classroom: This classroom is equipped with a video/data projection system connected to the instructor's computer. This system is used for everyday classroom instruction and enables the instructor to project information from his/her computer onto a wall screen which the whole class can view. This avoids having the whole class view the instructor's computer screen over his/her shoulder and return to their teriminals to do it on their own; or having the instructor move from one student terminal to another demonstrating the same thing over and over again. This makes for efficient use of the class time.

Student Transitional Education Program (STEP)

Student Transitional Education Program (STEP) is funded by a 5-year, Student Support Services Grant under the Department of Education TRIO Program. The program will monitor 150 first-generation college students in areas of Reading, English, and Mathematics to support them academically and improve their retention rates. The program is staffed by 4 tutors, 2 counselors and a full-time director who supervises the STEP Center. The STEP Center is the latest addition to the facilities on the Orangeburg-Calhoun Technical College campus. The Center contains 12 computers for student use. Diagnostic and remedial software, apart from application software like WordPerfect, is available for student use. Apart from the 150 students who are monitored, the Center is open to other students on campus too.

Challenges Faced by Small Colleges

There is no doubt that effective use of technology increases the effectiveness of the teaching-learning activity. However, small colleges, like the Orangeburg-Calhoun Technical College, face many challenges in their endevor to make technology accessable to teachers and students. Some of those challenges are in the areas of:

Funding: Finding the funds to invest in technology. Though we have received funding from Title III, DOE Trio, and the College Foundation, they rarely cover the full costs.

Staff: New technology, which requires new skills, is appearing everyday. This requires staff who are comfortable with technology, computer literate, creative, and above all, willing to learn and upgrade their skills. Finding and retaining such staff is difficult.

Updating Technologies: The rapid pace of technological pace makes equipment and material obsolete within a few years. Effective utilization of technology requires that we invest in upgrading software; and new versions of software require more powerful and sophisticated machines. Updating software and hardware every few years is a challenge to the budget.